Appl. No. 10/645,699
Amdt. dated July 8, 2008
Reply to Office Action of May 1, 2008

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REMARKS/ARGUMENTS

Claims 1, 2, 4, 5, 9, 12, and 14-24 are pending. In the non-final Office Action mailed May 1, 2007, all the claims (i.e., claims 1, 2, 4, 5, 9, 12, and 14-24) were rejected under 35 U.S.C. § 112, second paragraph for indefiniteness. With this amendment, the independent claims (1, 9, 12, 21) have been amended to supply greater clarity. The Office Action also rejected claims 1, 2, 4, 5, 9, 12, 14-17 and 19-24 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,256,675 to Rabinovich in view of U.S. Publication No. 2007/0136393 to Fung. Claim 18 was rejected under 35 U.S.C. § 103(a) as unpatentable over Rabinovich, Fung, and further in view of U.S. Publication No. 2006/0036892 to Sunna. It is submitted that, with the amendments as to clarity, the claims of this application clearly distinguish over the cited art and are in condition for allowance. Further examination and reconsideration of the application as amended are requested.

A. Claim Amendments

Claim amendments are provided in response to the Section 112 issue identified by the Office Action. In particular, the feature in the independent claims of "a module for allowing the third computer to access the file ... when the first computer receives an access request for the file" (e.g., lines 34-35 of claim 1) was cited an unclear as to which computer made the access request. The independent claims have been amended to clarify that the access request is received from the third computer (see, e.g., lines 11-12 of claim 1). Thus, claims 1, 9, 12, and 21 meet the requirements of Section 112, and any issues with respect to the dependent claims have been rendered moot.

The feature in the independent claims of "a module for receiving a return request packet ... and issuing a read request in response ..." (e.g., lines 37-38 of claim 1) was deemed uncertain as to which computer receives the return request packet and which computer issues the read request. It is submitted that the context of the claim makes it clear that it is the first computer that receives the return request packet and issues the read request. For example, the claim feature refers to a "module", which the claim recites is included in program code (line 10

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of claim 1). The program code is executed (line 14) and is stored in memory for operating the CPU (line 9). The memory and CPU are components of the first computer (line 8). Thus, the claim itself indicates that it is the first computer that is executing the code that includes the "module for receiving a return request packet ... and issuing a read request in response ..." It is submitted that, as to this aspect of operation, claim 1 is clear without amendment. It is submitted that the other independent claims also are clear as to this aspect, as are the claims dependent therefrom.

The independent claims have also been amended to recite that the migrator acceptor search packet is for inquiring "whether or not the second computer can accept the file in accordance with a requested storage capacity". This feature is described in the specification at page 20, line 27 through page 21, line 2, and is illustrated in Fig. 6.

With the amendment to the independent claims described above, it is submitted that all the claims meet the requirements of Section 112.

B. Substantive Rejection

Applicants note that, in the Office Action, it was asserted that in Figure 1 of Rabinovich, the requestor distributor 101 and host 103 are "mapped" to (i.e., are equivalent to) the "first computer" of the pending claims, and that the host 104 and host 105 map to the "second computer" of the claims and the requester 109 maps to the "third computer" of the claims. It is asserted that this characterization of at least the "first computer" is not appropriate to the claims.

The claims recite a first computer, a second computer, and a third computer. In the Rabinovich system, the requestor distributor 101 and host 103 are two separate computers that have very different functions, as reflected in their Figure 1 depictions. The requestor distributor 101 receives requests for objects from the requester 109 and distributes the requests to the hosts 103, 104, 105 (see col. 6, lines 22-25). The host 103 is one of three hosts 103, 104, 105 illustrated in Figure 1, wherein each host stores replicas of objects (col. 2, lines 9-10).

It is submitted as inappropriate to combine the host 103 with the requestor distributor 101 to map the "first computer" of the claims, when the function of the host 103 is so different from the requestor distributor and is identical to the function of the other hosts 104, 105 that are mapped to the "second computer". Figure 1 from Rabinovich is reproduced below, to

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illustrate the disparity in construction and function between the request distributor 101 and the

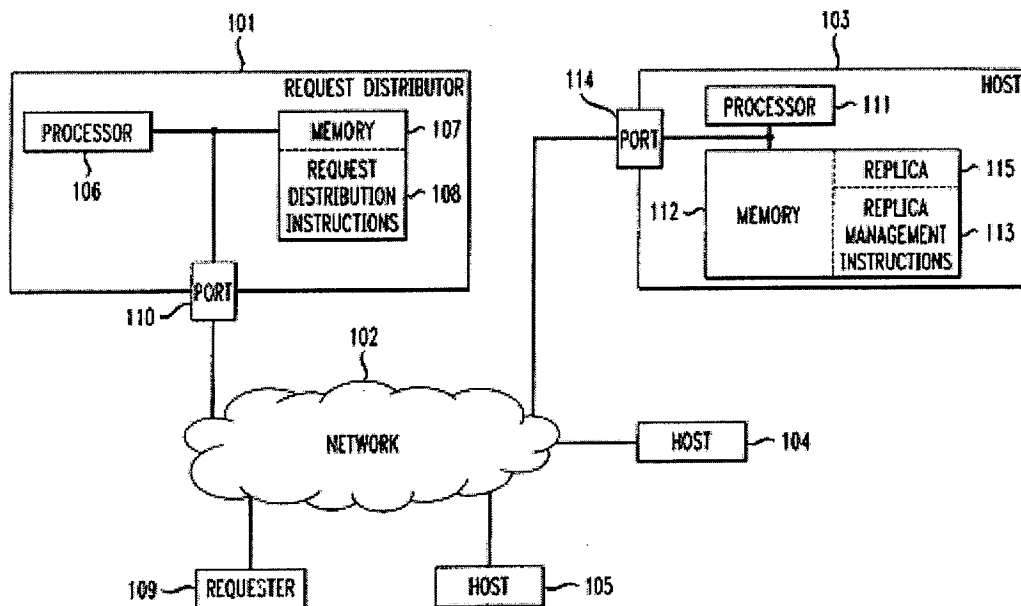hosts 103, 104, 105 and requestor 109:

FIG. 1

Fig. 1 of Rabinovich

The characterization of the claimed "first computer" by the Office Action

illustrates hindsight reconstruction of the claimed invention, where the pending claims are used

as a guide to pick and choose among elements from the prior art. It is submitted that because of

the hindsight reconstruction and inappropriate characterization, no *prima facie* case of

obviousness has been presented.

Even if the characterization of the "first computer" in the Office Action is

accepted, it is submitted that the proposed combination will not provide all the claim elements.

Two of the missing elements are described below. Again, it is asserted that no *prima facie* case

of obviousness is presented by the Office Action.

1. "a module for transmitting an advertisement packet to the third computer..."

The Office Action asserts that the module for transmitting an advertisement

packet is described in Rabinovich. The claim feature recites:

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a module for transmitting an advertisement packet to the third computer either after or before the file is transferred to the second computer, the advertisement packet indicating that the file is transferred to the second computer;

The Office Action refers to the offload request of Rabinovich (col. 15, line 17) as providing the same function as the claimed module. The Rabinovich offload request, however, is a request from a host "*s*" 103, 104, 105 to a corresponding replicator 101[1] for the host *s* to shed" an object (col. 15, lines 38-40). In Rabinovich, the offload operation has nothing to do with any requestor 109.

In the pending claims, the module transmits an advertising packet "to the third computer", indicating that the file is transferred to the second computer. In this way, the requesting computer is informed of the current location of the request file (see page 28 of the specification, lines 6-22).

As noted above and in the claim amendments, in the pending claims of this application, the "third computer" is the computer that requests access to a file. All of the communications in Rabinovich involving the offload operation occur between the replicator 101 and the hosts 103, 104, 105. None of the offload communications in Rabinovich involve the requestor 109. The Office Action equates the requestor 109 to the third computer. Therefore, Rabinovich cannot provide the claimed feature of transmitting an advertising packet to the third computer. None of the cited art makes up for this deficiency.

This claim feature cannot be provided by the art of record and therefore no *prima facie* case of obviousness is presented and the independent claims are not rendered obvious.

2. "a module for receiving a return request packet ..."

The Office Action asserts that the combination of Rabinovich and Fung provides the claim feature in claims 1, 9, 12, and 21 of:

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[1] In Rabinovich, the "replicator" is the same component as the request distributor 101 (see col. 13, lines 47-49).

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a module for receiving a return request packet from the second computer and issuing a read request in response, for returning the file to the first computer;

The Office Action concedes that Rabinovich does not provide the claimed feature for returning the file to the first computer. The Fung publication was cited to provide the missing element. It is submitted that no *prima facie* case of obviousness is presented, because Rabinovich and Fung are not properly combined, the proposed combination would not function properly, and would not provide the claimed feature.

Rabinovich does not return an offloaded object to any particular computer because that is not how Rabinovich operates. Rather, when a host *s* of Rabinovich wants to offload (migrate or replicate) an object, it attempts to place the object on the farthest among all possible candidates (col. 16, lines 19-22). Candidate hosts are determined by their respective workloads (col. 16, lines 56-64). This operation is consistent with the goals of the Rabinovich object distribution system, which seeks to distribute replica copies of objects among multiple servers so as to balance server work load (col. 4, lines 34-38) and is not concerned with returning an offloaded object to its originating host. In other words, Rabinovich would not operate properly without the freedom to move an offloaded object to a candidate host based on workload, rather than originating host.

In contrast, the current application and pending claims are concerned with files that are managed by particular servers (page 3, lines 13-22). In the system, a server stores files and responds to file access requests, and movement or migration of a file to a different server must be managed (page 5, lines 8-23). That is, a server has responsibility for (i.e., manages) a file and therefore it is important for a migrated file to be returned to the managing server, not simply offloaded to another server with workload capacity. Thus, the claimed feature recites that a file moved from the first computer to the second computer is "returned from the second computer". It is submitted that Rabinovich does not perform this operation because Rabinovich has no concept of "returning" an offloaded object to an originating host. Rather, Rabinovich is only concerned with moving an offloaded object according to host workload.

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Fung relates to transaction recovery in which a Transaction Recovery Service (TRS) comprises a migratable service framework that can be moved from one computer server to another. It is important for recovery that a migrated TRS should be returned to its originating server (paragraph [0013]). In this way, Fung is concerned with different operations than Rabinovich, which is not concerned with return to an originating server and therefore is not compatible with Fung. In addition, the TRS is a computer process (such as a Java server instance; paragraph [0013]) and not a data file or object such as discussed in the context of Rabinovich and the present invention. The issues with regard to moving computer processes are different from those with regard to moving data objects. Thus, it is improper to combine Rabinovich with Fung because they are directed to different problems and any proposed combination would not operate properly. Moreover, even if the Rabinovich object request distribution system could be combined with the Fung process migration system, the combination would not provide the claim features relating to the "return request packet" module.

3. "... migrator acceptor search packet..."

In addition to returning a file to its original server after migration, the present claims also relate to the ability of a candidate target to accept the file. In this regard, one claimed migration parameter is the storage capacity of the target as noted in claim 1, which reads as below:

> a module for transmitting a migrator acceptor search packet to the
> second computer for inquiring whether or not the second computer can accept the
> file in accordance with a requested storage capacity;

The "requested storage capacity" is a field of the migrator search packet, which is illustrated in Figure 6 from the application, reproduced below:

FIG.6

TARGET NETWORK (IN IP HEADER)	100.0.0.0/24
SOURCE SERVER (IN IP HEADER)	200.0.0.101
MIGRATION ID	0x100
MIGRATION SOURCE SERVER	200.0.0.101
REQUEST CAPACITY [MB]	100

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The requested storage capacity is indicated as the last field of the packet. As noted above, Rabinovich is concerned with offloading objects to a candidate host according to the candidate with a suitable workload that is farthest from the requesting host (col. 16, lines 19-22 and lines 56-64). Nowhere does Rabinovich consider storage capacity of a candidate in performing offload processing. Likewise, Fung does not discuss such considerations in his system operation. Thus, the combination cannot provide all the claimed features.

Therefore, the proposed combination of Fung with Rabinovich does not provide a *prima facie* case of obviousness for the independent claims 1, 9, 12, and 21. Therefore, these claims 1, 9, 12, and 21 are not rendered obvious. The same conclusion applies to the claims dependent therefrom.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-350-6100.

Respectfully submitted,

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